

Amendment Under 37 C.F.R. § 1.116  
USSN 09/605,882

**REMARKS**

Claims 9-11 and 15 remain in the application, claim 16 having been canceled and incorporated into the independent claims. The claims have also been amended to more clearly define the invention and address various issues raised by the examiner. Reconsideration of the application and allowance of all claims are respectfully requested in view of the above amendments and the following remarks.

**Election Issues**

In the Amendment filed October 9, 2002, applicant canceled all claims and replaced them with a new set of claims 8-16. As explained in that response, claims 9-12 and 15 are clearly directed to the same patentable invention as was elected by applicant in response to an earlier restriction requirement. There does not appear to be any question but that these claims should be examined in the present case.

In the present office action, the examiner argues that claims 8 and 12-14 are drawn to the previously non-elected invention. It is applicant's position, as explained in each of the previous two papers filed by applicant, that all claims of the present application are directed to the same patentable invention. However, assuming for the sake of argument that restriction was proper between original claim 1, claims 2-5 and claims 6-7, the only basis given by the examiner in support of the requirement for restriction between claims 1 and 6 was that the phrase "plasma torch type" in claim 6 was not a plasma torch. Claim 13 does not recite a torch of the plasma torch type but specifically recites a plasma torch. Since claim 13 clearly differs from claim 6 in the aspect the examiner found critical to support the restriction requirement, it is clear that claim 13 must be considered to be directed to something different from the non-elected invention of

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claim 6. It is further noted that all independent claims now recite that the gas during the glazing operation is substantially silica free. It is respectfully submitted that these claims are directed to subject matter different from that recited in the claims which the examiner required be restricted. If the examiner believes a restriction requirement is proper, he must state a restriction requirement and give a rationale that applies to the new claims.

### 35 U.S.C. 112 Issues

In a new rejection, the examiner has rejected claim 16 on the grounds that the specification does not support a claim that the gas is particle free. Claim 16 has now been canceled and its limitations incorporated into all independent claims. At the same time, the phrase "particle-free" has been replaced with the phrase "silica free," and alleged ambiguity as to the words "target" and "area" has been eliminated.

### Prior Art Issues

The examiner has rejected claim 9 for anticipation by Fleming, and has rejected claims 9 and 11 as anticipated by Drouart. These rejections are respectfully traversed, in that neither of these references teaches the glazing operation which is central to the present invention, and which only occurs when the torch is operated without the feed of silica particles. This aspect of the invention is believed reflected in the recitation of "glazing," but is in any event clarified by the incorporation of claim 16 into claim 9.

The examiner has rejected claims 10 and 15-16 as unpatentable over Fleming or Drouart. This rejection is respectfully traversed.

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The examiner supports his rejection of claim 16 by arguing that the claims do not indicate when the gas has to be particle free, and that it would have been obvious to have the gas of Fleming be free of particles prior to the introduction of silica particles. This is believed to be based on an entirely unreasonable interpretation of the claims, and clearly an interpretation contrary to the manner in which anyone of skill in the art would interpret the claims. In any event, it does not hold up. Claim 16 recited "said gas is substantially particle-free." The gas being referred to is described in claim 9 as being injected "between the plasma torch and said preform in the area of said preform to be heated." At a time prior to introduction of the silica particles in Fleming or Drouart, whatever gas the examiner may be referring to which is particle-free is not being injected between the plasma torch and the preform in the area of the preform to be heated."

#### Conclusion

With the amendment of the claims to recite that the gas is free of silica particles instead of being "particle-free," and with certain other editorial amendments, all non-art rejections have clearly been overcome. Further, the only way the examiner has proposed to support the prior art rejection of claim 16 (now incorporated into all independent claims while changing the language to recite "silica free" instead of "particle free") is to read the claim language in a manner that no one of skill in the art would do. This is improper and clearly a strained attempt to shoehorn the prior art into the claim language. In any event, it cannot be maintained because the time at which the examiner proposes to find the particle-free gas would not be a time when the torch is heating the preform, and would therefore not satisfy the claim language which clearly describes a glazing

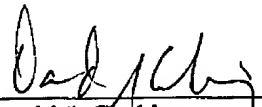
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operation which is not performed in the Fleming or Drouart. Accordingly, it is believed that all claims are in condition for allowance.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**Please cancel claim 16 without prejudice or disclaimer.**

**Please amend the remaining claims as follows:**

8. A plasma torch for locally heating a target, said torch including means for injecting a substantially ~~particle free gas~~ substantially free of silica particles between the plasma torch and said target in the area of said target to be heated so as to reduce the power of said plasma in said area.
- ✓ 9. A method of fabricating an optical fiber preform including an operation of glazing the outside surface of said preform using a plasma torch for localized heating of the preform, wherein said plasma torch includes means for injecting a gas which is substantially free of silica particles between the plasma torch and said ~~target~~preform in the area of said ~~target~~preform to be heated so as to reduce the power of said plasma in said area, said method including the step of injecting said gas between the plasma torch and said preform in the area of an outside surface of said preform on which said plasma impinges, to thereby reduce the power of said plasma in said area.
- ✓ 10. The method claimed in claim 9 wherein the flowrate of said gas is from 3 l/min to 6 l/min.

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- ✓ 11. The method claimed in claim 9 wherein said gas is air.
12. The method claimed in claim 9 wherein said gas is a neutral gas.
13. A system for fabricating an optical fiber preform, said system including:  
means for holding said preform at both ends,  
a plasma torch for localized heating of said preform, wherein said preform is said target,  
said plasma torch including means for injecting a substantially particle-free gas which is  
substantially free of silica particles between the plasma torch and said target in the area of said  
target to be heated so as to reduce the power of said plasma in said area,  
means for rotating said preform about its longitudinal axis,  
means for moving said preform relative to said plasma torch in the direction parallel to  
said axis, and  
means for causing said plasma torch to inject said gas between said preform and the  
plasma torch in the area of the outside surface of said preform on which said plasma impinges.
14. The system claimed in claim 13 wherein said gas injector means include an  
injector nozzle fixed relative to said torch, in the vicinity of which it is positioned so as to form,  
conduct and orient a jet of gas at a particular flowrate onto the area of the outside surface of said  
preform on which said plasma impinges.

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✓ 15. The method claimed in claim 9 wherein the flowrate of said gas is 4 l/min.

| ~~16. The method claimed in claim 9 wherein said gas substantially particle free.~~